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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,284	03/31/2006	Mitsuru Eida	288244US2PCT	5500

22850 7590 12/31/2009
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EXAMINER

GUHARAY, KARABI

ART UNIT	PAPER NUMBER
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2889

NOTIFICATION DATE	DELIVERY MODE
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12/31/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/574,284	Applicant(s) EIDA ET AL.	
	Examiner Karabi Guharay	Art Unit 2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment, filed on 8/24/09.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,4,7,11-15,19-22,24,25,27,28 and 30-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,4,7,11-15,19-22,24,25,27,28 and 30-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Response to Amendment

Amendment, filed on 8/24/09, has been considered and entered. Claims 1, 2, 5, 6, 8-10, 16, 18, 23, 26 and 29 have been canceled.

Claims 3, 4, 7, 11-15, 19-22, 24-25 and 27-28 and 30-32 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 3-4, 7, 11-12, 14-15, 19-20, 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US 2003/0132701).

Regarding claims 3-4, 7, 11-12, 14-15, 19-20, 30-32, Sato et al. discloses a luminescent device or a display (Fig 1A and Fig 1B; paragraph 1) that emits white light (paragraph 10) comprising a color conversion layer (5) and an emitting medium (1) which is a light emitting diode (paragraph 31) wherein the color conversion layer comprising a fluorescent medium (4) for converting light in a blue range emitted from the emitting medium (paragraph 6) to light having a longer wavelength (paragraphs 6 and 65). Sato et al. further teaches a diffusing agent, which are particles of an inorganic material such as aluminum oxide, titanium oxide (paragraph 69) is added to the color conversion medium which causes satisfactory random reflection (scattering), Further Sato et al. teaches that the inorganic particles are coated with transparent resin material (since diffusing particles are dispersed in resin media) which suppress extinction of fluorescent particle (paragraph 36 & 37 teaches that resin media increases light diffusion so extinction of light), and the color conversion layer is formed on the substrate (on the mounting resin ; paragraph 83).

Though it is not mentioned explicitly, since scattering of light inside the color conversion medium is made high, amount of haze value is high, and further Sato et al. teaches that the application of diffusion agent can be varied depending on the intended application. Thus it would have been obvious to one having ordinary skill in the art to set the haze value of the color conversion medium to 50% to 95% so as to have more internal reflection in the medium, to obtain higher color purity (see paragraphs 69-70).

Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al., and further in view of Yu et al. (US 2002/0063520).

Regarding claims 24-25, Sato et al. discloses all the limitations of claims 9, 23-25, except for a color filter stacked on the device.

However, in the same filed of light emitting device (Fig 7), Yu et al. discloses a color conversion layer (52) and a color filter layer (55) is stacked on the device (paragraph 13 & 30) in order to improve the purity of the emitted light.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a color filter stacked in the device of Sato et al. since color filter will improve the purity of the emitted color.

Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. as applied to claims 3-4 above, and further in view of Sylvester et al. (US 2004/0252933).

Regarding claims 21-22, Sato discloses diffusing material being inorganic oxide, however, is silent about whether the particles are solid or hollow.

However, Sylvester et al. in the device of light distribution, teaches that both solid and hollow micro-spheres are suitable scattering particles for uniform light distribution (paragraph 43).

Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to have hollow particles for scattering since selection of known material for known purposes is within the skill of art.

Claims 13, 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US 2003/0132701), and further in view of Kuma et al. (US 2003/0127968).

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Regarding claims 26-28, Sato et al. disclose all the limitations of claims 10, 26-28, except for a color filter material being mixed with fluorescent medium in color conversion layer.

However, in the filed of luminous device, Kuma et al. disclose that light adjusting members (see Fig 6) comprises the mixture of fluorescent dye as color converting material and a color filter material in order to produce improved color of the device (paragraphs 3 & 7-9).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the mixture of fluorescent dye as color converting material and a color filter material in order to produce improved color.

Regarding claim 13, Sato et al. discloses LED as the emitter of light, while Kuma discloses an El device as an emitter in front of color conversion layer containing fluorescent and color filter material.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use El device instead of LED as the emitter in the device of Sato et al. since selection of known devices for known purpose (in this case light emitter) is within the skill of art.

Response to Arguments

Applicant's arguments filed on 8/24/09 have been fully considered but they are not persuasive. Applicant contends that Sato does not teach that the inorganic particles are coated with transparent resin material, which suppresses extinction of fluorescent particles.

Examiner respectfully differs. Since Sato teaches addition of inorganic diffusing particle to be dispersed along with fluorescent particles in the transparent resin, inorganic particles are definitely coated with transparent resin. Further Sato teaches that this particular resin and its

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curing provides satisfactory dispersion of fluorescent particle (avoid precipitation of fluorescent particle) thus improves workability, which suppress extinction of fluorescent particle (see paragraphs 36-39).

In response to applicant's argument against Yu patent, examiner respectfully present since claims 24-25 does not recite the stacking order, the argument is invalid.

In response to applicant's arguments against Sylvester, examiner respectfully presents that claim calls for scattering particles being hollow, and Yu teaches suitability of having hollow particles as scattering center. What is the effect of using hollow particle is not claimed and since haze value is directly related to scattering, using hollow particle of Yu in the device of Sato will have same function as in case of claimed invention.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Other Prior Art Cited

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure : Stokes et al. (US 6791259).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is 571-272-2452. The examiner can normally be reached on Monday-Friday 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on 571-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Karabi Guharay/
Primary Examiner, Art Unit 2889